

WILDLIFE HARVEST AND POPULATION STATUS REPORT

WILD TURKEY - 2003

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2002 FALL FIREARMS TURKEY SEASON

The 2002 fall firearms turkey season resulted in a harvest of 16,635 birds, an increase of 995 (6%) from the 2001 fall harvest (Table 1). Juvenile birds composed 50% of the harvest. Permit sales were up 1.2% from 2001 (Table 1). The pattern of permit sales and harvest from 1985-95 (Table 1) indicated that Missouri's fall firearms season was "self regulating." When turkey numbers went up, hunter numbers went up, and the harvest increased; when turkey numbers were down, hunter numbers were down, and the harvest decreased. Since 1995 it appears that, in Missouri, only a core group of hunters are pursuing fall firearms turkeys and only harvest has fluctuated with the hatch. We have seen an increase in the proportion of adult gobblers harvested during fall over the past 20 years (Figure 1). Preliminary harvest totals for the 2003 fall turkey season were 11,292 birds taken, a decrease of 32% from 2002 and was likely a reflection of the recent poor hatch.

2003 SPRING TURKEY SEASON

The 2003 spring turkey season was again an outstanding success. The 2003 (including the 2 day youth season) spring harvest was 58,421 birds, up 2.4% from 2002 and an overall spring harvest record (Table 2). Juveniles composed 23% of the harvest reflecting the below

average hatch in 2002. Spring started slow but by our 3rd week green-up was almost complete statewide. Total permit sales for spring turkey hunting increased by 3.9% to 130,101 (Table 2). The number of nonresident turkey hunting permits issued decreased by about 5% from 2002 to 9,607 in 2003. In 2002, the nonresident spring turkey hunting permit price increased from \$125 to \$145.

Top harvest counties in 2003 were Texas with 1,280, Laclede with 1,138 and Howell with 1,066 birds taken. Regionally the harvest was 8,034 in the Northeast region, 8,063 in Northwest, 7,973 in Central, 3,995 in Saint Louis, 8,013 in Ozark, 6,713 in Southwest, 5,369 in Southeast, and 6,623 in Kansas City region.

2003 BROOD SURVEY

The 2003 statewide poult to hen ratio was 1.6 poult per hen (Figure 2) which was considerably lower than the 42 year average of 2.7 poult per hen and 24% below the previous 10-year average of 2.1 poult per hen. Turkey populations in most areas of the state have expanded to occupy the majority of the available habitat in Missouri. As Missouri turkey flocks expanded and occupied new habitat, tremendous production occurred. Consequently, the high long-term average is reflective of this high production. The previous 5 and 10-year averages are probably better estimates of what is necessary to maintain today's turkey populations at current levels. Regardless, the poor poult production during 2002 and 2003 will likely result in a decreased harvest in 2004.

Variation among turkey production regions was evident in the 2003 poult to hen ratios (Figure 2) although all regions were at or below their previous 5-year average (1997-2002). Statewide poult:hen ratios have varied over time and have leveled off in recent years (Figure 3).

Efforts are currently being undertaken to increase brood survey participation in all regions within the state with special focus on those regions with questionable return numbers.

POPULATION STATUS

Since 1983, volunteer archers have recorded the number of wild turkeys, deer, and furbearers seen while bowhunting during October and November. On a statewide basis, the number of wild turkey sightings per 1,000 hours of bowhunting in 2002 was 773. This number is above the previous 15-year average (511) but similar to that observed during the last 3 years.

These observations suggest that, despite recent poor hatches, the statewide population of turkeys is in good shape. Hunters during the 2003 spring season encountered average numbers of jakes. Consequently, there should be fair numbers of 2-year olds during the 2004 spring season.

Spring turkey harvest, age structure in the spring harvest, population indices, hunter success, and hunter opinions and attitudes provide the information needed to determine whether spring turkey hunting quality is being impacted. These variables are being monitored closely.

INCIDENTS

In the spring of 2003 there were 4 non-fatal incidents, the lowest number in recent (since 1985) history (Table 3). Even though hunters were able to hunt for three weeks, during full leaf-out the number of incidents did not increase. There were 8 non-fatal spring hunting incidents during spring of 2002, none recorded during fall of 2002, and 1 during fall 2003.

An analysis of incident data revealed that, although the average number of incidents before (1978-1986) and after (1987-1998) the safety regulations were implemented in 1987 was

not quite statistically different (18.7 vs. 12.1), the incident rate (number of incidents/100,000 permits sold) was significantly lower (2.90 vs. 1.30).

Mistaken-for-game is still the primary cause of incidents. Even though the spring turkey hunting incident rate is on the decline in Missouri, the need to stress turkey hunting safety continues.

RESTORATION

Restoration has been complete in Missouri since 1979. However, parts of SW Missouri have had a history of low turkey densities despite reasonably good habitat. Local staff theorized that poaching and other mortality pressures were such that the depressed turkey population was unable to rebound. We released 360 birds (100 gobblers, 260 hens) at 13 sites during winter 2001-2002 in an attempt to flood the area with birds thus enabling them to bring off a hatch that was greater than yearly losses. A portion of the released birds were radio-marked. This past year we started the nesting season with 43 radioed hens but lost signals on 9. Signals are growing weak and we are quickly losing the ability to track birds. Of the mortalities we lost 5 nesting hens to predators, 1 to haying equipment, and 1 to a vehicle accident. Of the 23 nests that were flagged, 2 hens lost their nests to black snakes and 21 birds laid 162 eggs; 52 poults were counted at four weeks of age. Management staff have received reports from landowners and hunters seeing more birds and are optimistic about the programs success.

REGULATION CHANGES

We are considering regulation changes to increase season length and daily bag limits for fall turkey season and to permit all-day hunting for spring turkey season. The objectives of the fall season recommendations are to increase opportunity, hunter participation, and harvest. Population models using data collected in Missouri suggest that fall harvests could be doubled without impacting the quality of spring hunting.

The rationale for considering all-day hunting is to provide additional harvest opportunity and to further distribute hunting pressure. We continue to receive numerous requests from hunters asking us to legalize all-day hunting. Recent spring turkey hunter surveys have revealed an increase in the proportion of hunters that favor all-day hunting. Both Missouri population modeling data and information from other states suggest that all-day hunting should not have a significant impact on gobbler populations. All-day hunting would provide hunters (especially youth after school) with more time to hunt.

Any recommendations for liberalizations will include a process and criteria to monitor and evaluate the impacts on hunter attitudes and turkey populations. As a precursor we will survey hunters in 2004 to measure attitudes towards spring and fall turkey liberalizations.

TABLE 1. Fall firearms turkey season harvest and permit sales, 1985-2002.

Year	Fall Firearms Harvest	% Change From Previous Year	Fall Permit Sales	% Change From Previous Year
2002	16,635	+6	31,329	+1.2
2001	15,640	+18.2	30,949	-3.2
2000	13,230	-9.7	31,968	-2.0
1999	14,651	-4.5	32,606	0.0
1998	15,343	+29.3	32,593	-3.5 ^d
1997	11,866	-10.2	33,765	-2.2 ^c
1996	13,207	-4.8	34,522	+2.6 ^c
1995	13,866	-30.2	33,642	-12.6
1994	19,869	+46.4	38,424	+11.8
1993	13,569	-20.4	34,379	-4.6
1992	17,061	-13.8	36,033	-3.8
1991	19,788	+23.6	37,469	+1.0
1990 ^b	16,015	-27.6	37,080	-21.0
1989	22,131	-4.1	46,946	-7.4
1988	23,080	-18.0	50,715	-4.2
1987	28,139	+33.9	52,922	+13.4
1986 ^a	21,019	+72.6	46,688	+28.9

TABLE 1. Cont.

Year	Fall Firearms Harvest	% Change From Previous Year	Fall Permit Sales	% Change From Previous Year
1985	12,181	-	36,218	-

^aBag limit was increased from 1 to 2 birds.

^bPermit fee increase.

^c New permit types in 1996 and 1997 (all conservation and all hunting) that include fall firearms turkey hunting privileges make comparisons with other years less meaningful. Although permit sales went up in 1996 and 1997 when compared with 1995, a higher proportion of permit buyers (those buying the all conservation and all hunting permit types) did not hunt. These permit types were eliminated in 1998.

^d All conservation and all hunting permit types eliminated

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TABLE 2. Spring turkey season harvest and permit sales, 1985-2003.

Year	Spring Harvest	% Change From Previous Year	Percent Success^b	Spring Permit Sales	% Change From Previous Year
2003	58,421	+2.4	38	130,021	+3.8
2002	57,034	-1.3	39	125,157	+6.3
2001	57,842 ^e	+1.7	?	117,736 ^f	+2.2
2000 ^a	56,841	+13.0	39	115,190 ^f	+3.8
1999 ^a	50,299	+3.8	37	110,939 ^f	+5.1
1998 ^a	48,462	+45.9	36	105,518	+5.6
1997	33,216	-12.4	27	99,933	+0.1
1996	37,708	+0.3	30	99,879	+0.5
1995	37,472	-1.2	31	99,412	+8.8
1994	37,721	+9.8	33	90,810	0.0
1993	34,354	+4.0	30	89,899	+0.1
1992	33,035	+2.5	30	89,803	+0.8
1991	32,237	+7.3	29	89,077	-3.3
1990 ^c	30,056	-15.6	27	92,093	-0.9
1989	35,618	+7.3	31	92,901	-1.5
1988	33,187	-7.7	29	94,301	+10.0
1987	35,951	+16.1	33	85,723	+9.9
1986	30,965	+25.0	31	77,972	+10.3

TABLE 2. Cont.

Year	Spring Harvest	% Change From Previous Year	Percent Success^b	Spring Permit Sales	% Change From Previous Year
1985 ^d	24,770	-	25	69,945	-

^aThree week season, 2 bird bag limit with only 1 the first week and only 1 per day

^bPercent of permittees who hunted who killed at least 1 bird.

^cPermit fee increase.

^dTwo week season, 2 bird bag limit, 1 bird per week

^eIncludes 2 day Youth-only spring season

^fIncludes Youth Deer and Turkey hunting permits issued by end of spring turkey season

TABLE 3. Number of injuries during spring and fall firearms turkey season, 1992-2003.

Year	SPRING SEASON		FALL FIREARMS SEASON	
	Non-fatal Injuries	Fatal Injuries	Non-fatal Injuries	Fatal Injuries
2003	4	0	1	0
2002	8	0	2	0
2001	10	0	0	0
2000	4	0	4	0
1999	12 ^e	0	2	0
1998	5	1 ^d	2	0
1997	7	0	6	0
1996	5	0	0	0
1995	12	1 ^c	5	0
1994	6	1 ^b	5	0
1993	7	0	3	1 ^a
1992	9	0	7	0

TABLE 3. Cont.

Year	SPRING SEASON		FALL FIREARMS SEASON	
	Non-fatal Injuries	Fatal Injuries	Non-fatal Injuries	Fatal Injuries
1991	14	0	4	0
1990	13	1	9	0
1989	22	0	9	0
1988	25	1	10	0
1987	15	0	15	0
1986	29	2	13	0

^aFatality due to illegal use of centerfire rifle in a case of the victim being mistaken for game.

^bFatality resulted from victim climbing into or out of a tree stand with a loaded shotgun which went off.

^cFatality resulted from victim being mistaken for game at 18 yards.

^dFatality resulted from victim being mistaken for game and shot by a person hunting illegally with a scoped 0.270 rifle. The shooter said he saw what he thought was a turkey at a little over 100 yards and fired.

^e 1 incident from illegal activity

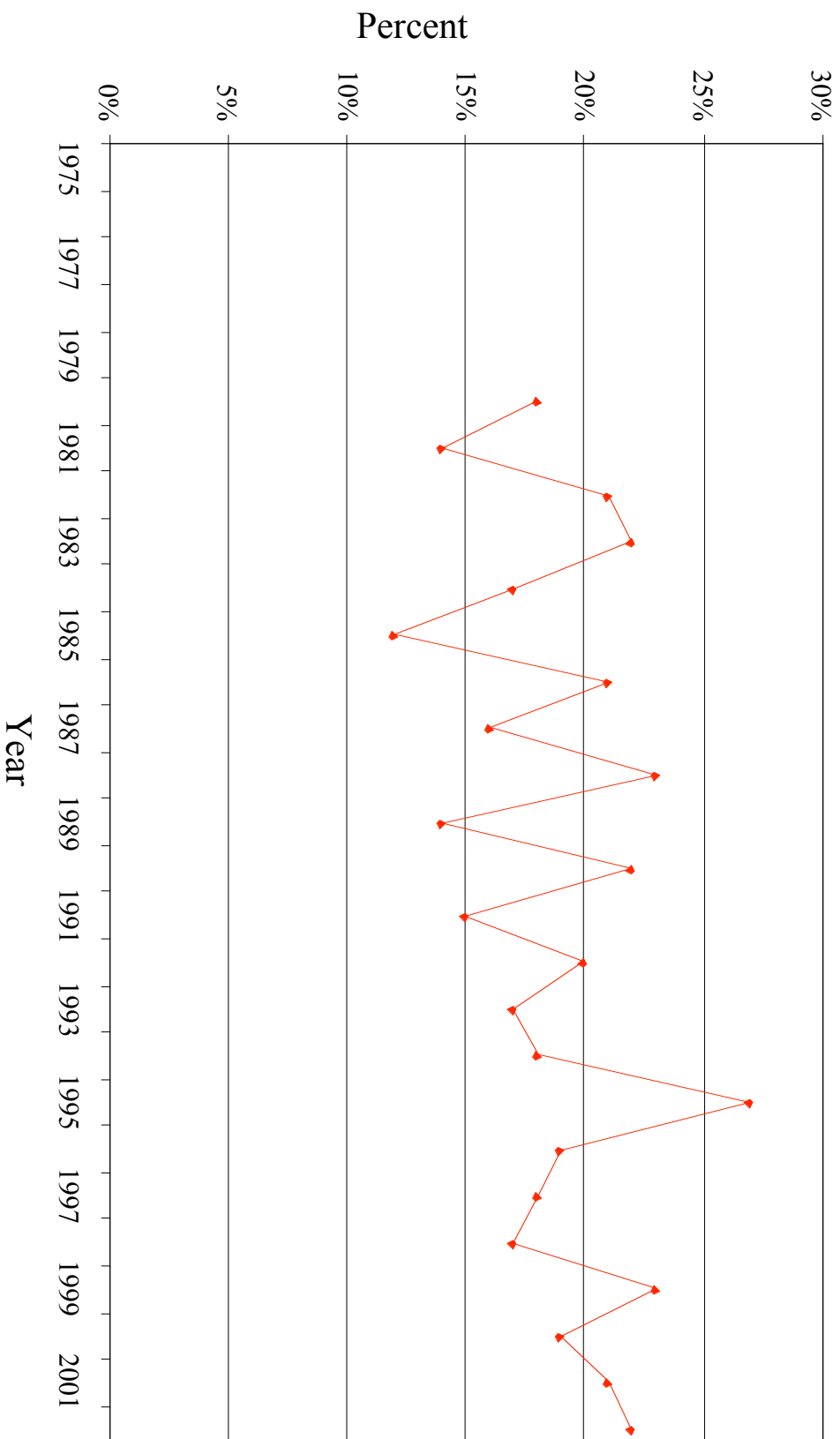


Figure 1. Percent of adult gobblers in fall harvest 1978-2002

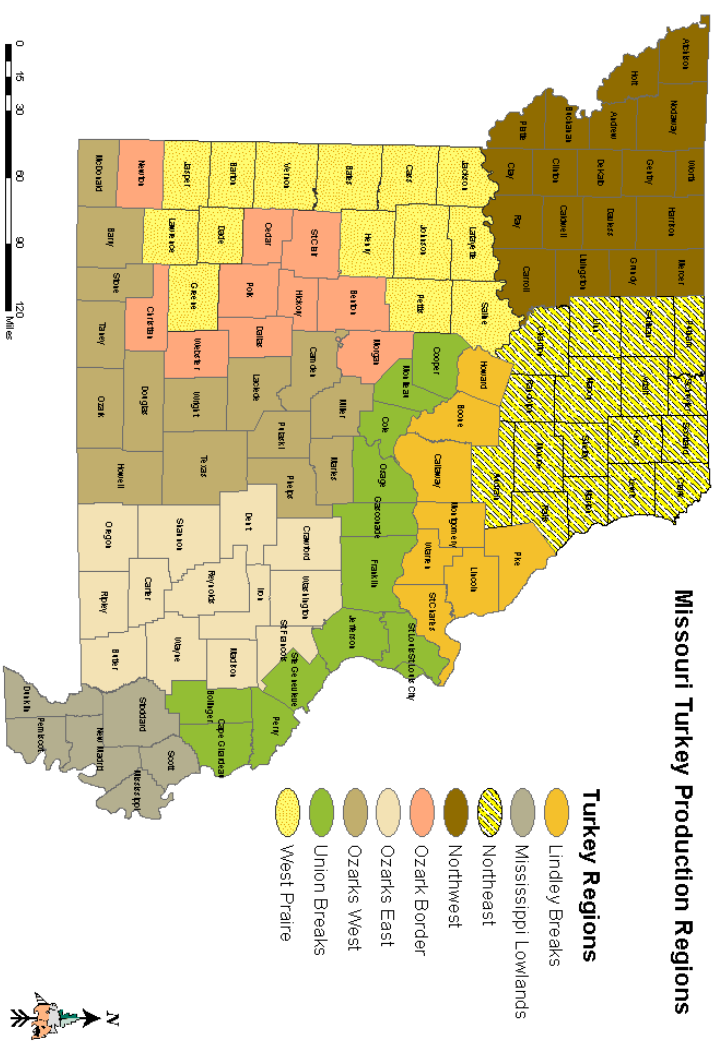


Figure 2. Poul:hen ratios for Missouri turkey production regions, 2003.

Lindley Breaks	1.7	Ozarks East	1.7	Ozark Border	1.2
Mississippi Lowlands	3.1	Ozarks West	1.7	West Prairie	1.7
Northeast	1.8	Union Breaks	1.5	Northwest	1.8

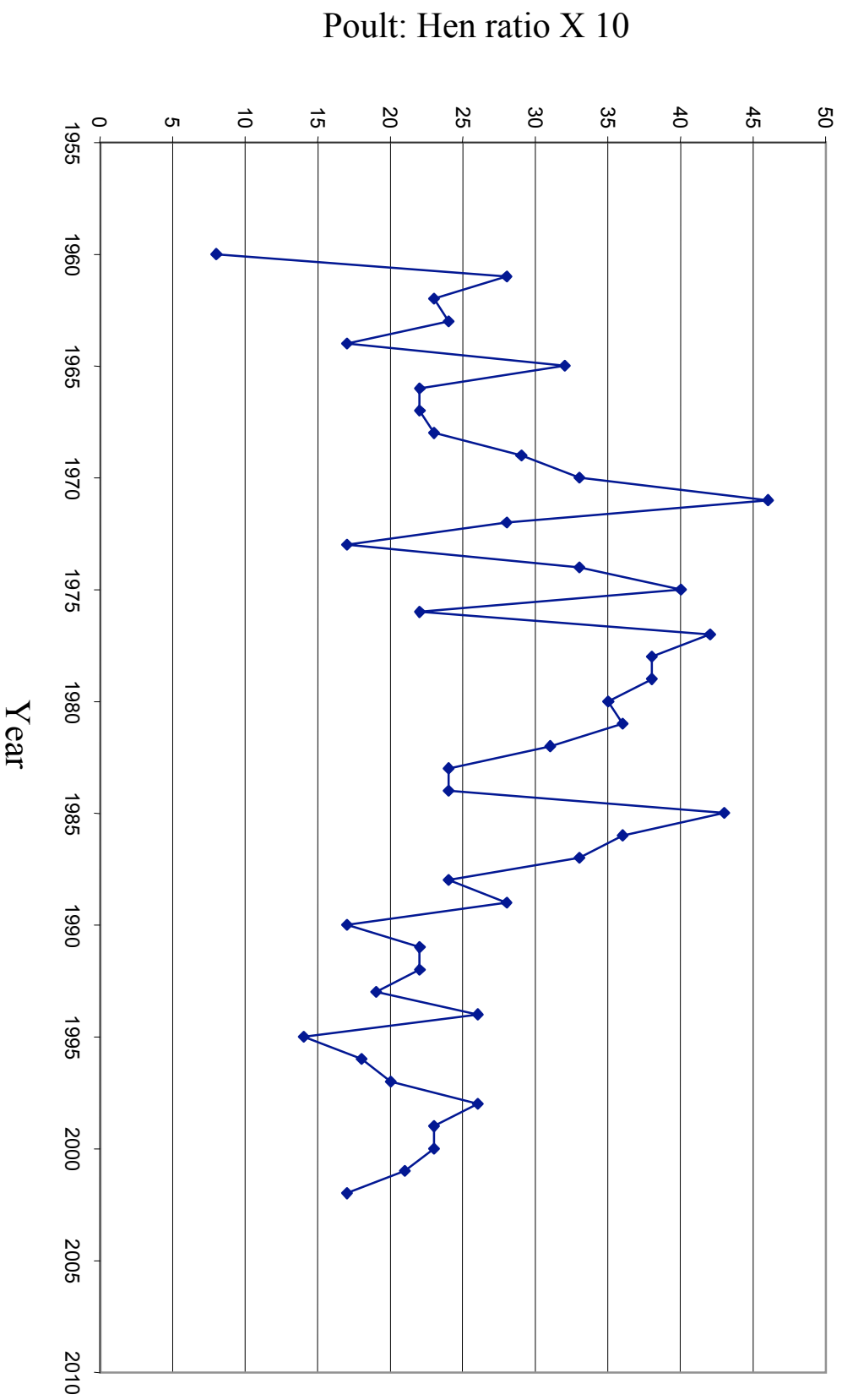


Figure 3. Annual summer poult:hen ratios observed for Missouri 1960-2002.